That which is claimed is:

1. A method of producing silicon carbide crystals, comprising:

forcing nucleation sites of a silicon carbide seed crystal to a predefined pattern; and

growing silicon carbide utilizing physical vapor transport (PVT) so as to provide selective preferential growth of silicon carbide corresponding to the predefined pattern.

2. The method of Claim 1, wherein the forcing nucleation sites comprises providing regions of higher thermal conductivity in a seed crystal holder, the regions of higher thermal conductivity corresponding to the predefined pattern; and

mounting the seed crystal on the seed crystal holder.

3. The method of Claim 2, wherein the providing regions of higher thermal conductivity comprises removing portions of the seed crystal holder so that the seed crystal selectively contacts the seed crystal holder, the regions of higher thermal conductivity corresponding to regions where the seed crystal contacts the seed crystal when the seed crystal is mounted on the seed crystal holder.

4. The method of Claim 2, wherein the providing regions of higher thermal conductivity comprises:

removing portions of the seed crystal holder so as to provide cavities in the seed crystal holder; and

filling the cavities in the seed crystal holder with a material having a higher thermal conductivity than a material of the seed crystal holder.

5. The method of Claim 4, wherein filling the cavities comprises:

covering the seed crystal holder with a layer of the material having a higher thermal conductivity; and

removing a sufficient amount of the layer of the material of higher thermal conductivity so as to expose portions of the seed crystal holder.

6. The method of Claim 5, wherein the material of the seed crystal holder comprises graphite and wherein the material of higher thermal conductivity comprises silicon carbide.

7. The method of Claim 2, wherein the predefined pattern comprises stripes in the seed crystal holder.

8. The method of Claim 2, wherein the predefined pattern comprises a pattern of posts in the seed crystal holder.

9. The method of Claim 8, wherein the posts are substantially circular.

10. The method of Claim 2, wherein the regions of higher thermal conductivity are configured so as to modulate a thermal profile of the seed crystal.

11. The method of Claim 1, wherein the forcing nucleation sites comprises forming a pattern on an exposed surface of the seed crystal so as to provide regions of the seed crystal which extend beyond other regions of the seed crystal.

12. The method of Claim 11, wherein the pattern comprises stripes in the seed crystal.

13. The method of Claim 11, wherein the pattern comprises a plurality of posts.

14. The method of Claim 13, wherein the posts are substantially circular.

15. The method of Claim 11, wherein the forming a pattern comprises forming a pattern of sidewalls in the exposed surface of the seed crystal.

16. The method of Claim 1, wherein forcing nucleation sites comprises forming a pattern of material other than silicon carbide on the silicon carbide seed crystal.

17. The method of Claim 16, wherein the pattern comprises stripes on the seed crystal.

18. The method of Claim 16, wherein the pattern comprises a plurality of posts on the seed crystal.

19. The method of Claim 16, wherein the pattern comprises a layer of material having a plurality of opening therein so as to expose potions of the seed crystal.

20. The method of Claim 19, wherein the openings are substantially circular.

21. The method of Claim 16, wherein the material other than silicon carbide comprises graphite.

22. The method of Claim 16, wherein the pattern of material other than silicon carbide provides a pattern of regions of having a reduced sticking coefficient over other regions of the seed crystal.

23. A seed crystal holder for growing silicon carbide using physical vapor transport, comprising:

a body section configured to hold a silicon carbide seed crystal; and

a plurality of regions of differing thermal conductivity in the graphite body section, the regions of differing thermal conductivity having a predefined pattern.

24. The seed crystal holder of Claim 23, wherein the plurality of regions comprise a plurality of cavities in the body section.

25. The seed crystal holder of Claim 23, wherein the plurality of regions of differing thermal conductivity are configured to contact the seed crystal.

26. The seed crystal holder of Claim 25, wherein the regions of differing thermal conductivity comprise regions of a material having a different thermal conductivity than the body section being provided within the body section.

27. The seed crystal holder of Claim 26, wherein the regions of differing thermal conductivity have a lower thermal conductivity than the body section of the seed holder.

28. The seed crystal holder of Claim 26, wherein the regions of differing thermal conductivity have a higher thermal conductivity than the body section of the seed holder.

29. The seed crystal holder of Claim 28, wherein the body section comprises graphite and wherein the regions of differing thermal conductivity comprise regions of silicon carbide in the body section.

30. The seed crystal holder of Claim 23, wherein the predefined pattern comprise stripes in the seed crystal holder.

31. The seed crystal holder of Claim 23, wherein the predefined pattern comprises a pattern of posts in the body section.

32. The seed crystal holder of Claim 31, wherein the posts are substantially circular.

33. The seed crystal holder of Claim 23, wherein the body section and the regions of differing thermal conductivity are configured to produce a thermal profile in the seed crystal corresponding to the predefined pattern.

34. A silicon carbide seed crystal, comprising:

a silicon carbide crystal having a first surface and a second surface, opposite the first surface; and

a pattern in the second surface so as to provide a plurality of regions of silicon carbide which extend a first distance form the first surface of the silicon carbide

crystal and a plurality of other regions which extend a second distance, different from the first distance, from the first surface of the silicon carbide crystal.

35. The silicon carbide seed crystal according to Claim 34, wherein the pattern is formed so as to preferentially grow silicon carbide in regions corresponding to the pattern utilizing physical vapor transport growth.

36. The silicon carbide seed crystal according to Claim 35, wherein the first distance is greater than the second distance and wherein the regions corresponding to the pattern correspond to sidewalls of the regions of silicon carbide which extend the first distance from the first surface.

37. The silicon carbide seed crystal of Claim 34, wherein the pattern comprises stripes of trenches in the seed crystal.

38. The silicon carbide seed crystal of Claim 34, wherein the pattern comprises a plurality of posts.

39. The silicon carbide seed crystal of Claim 38, wherein the posts are substantially circular.

40. A silicon carbide seed crystal, comprising:

a silicon carbide crystal having a first surface and a second surface, opposite the first surface; and

regions of a material other than silicon carbide on the second surface of the silicon carbide crystal, the material other than silicon carbide having a sticking coefficient associated with vapor phase transport growth of silicon carbide which is less than a sticking coefficient of precursors of silicon carbide.

41. The silicon carbide seed crystal of Claim 40, wherein the pattern comprises stripes of the material other than silicon carbide on the silicon carbide crystal.

42. The silicon carbide seed crystal of Claim 40, wherein the pattern comprises a plurality of posts.

43. The silicon carbide seed crystal of Claim 42, wherein the posts are substantially circular.

44. The silicon carbide seed crystal of Claim 40, wherein the pattern comprises a layer of the material other than silicon carbide, the layer of material having a plurality of openings therein to expose portions of the silicon carbide crystal.

45. The silicon carbide seed crystal of Claim 44, wherein the openings are substantially circular.

46. A silicon carbide crystal comprising:

first regions of silicon carbide having a first defect density; and

second regions of silicon carbide having a second defect density, the second defect density being less that the first defect density.

47. The silicon carbide crystal of Claim 46, wherein the first and second regions form a predefined pattern.

48. The silicon carbide crystal of Claim 47, wherein the predefined pattern is a pattern of stripes.

49. The silicon carbide crystal of Claim 47, wherein the predefined pattern is a pattern of circles.

50. The silicon carbide crystal of Claim 46, wherein the second defect density is about five times less than the first defect density.

51. The silicon carbide crystal of Claim 46, wherein the second defect density is about 10 times less than the first defect density.

52. The silicon carbide crystal of Claim 46, further comprising at least one semiconductor device formed in the second regions.

53. The silicon carbide crystal of Claim 46, wherein the first regions have are spaced apart a distance of from about 0.5 mm to about 5 mm and the second regions are spaced apart a distance of from about 0.5 mm to about 5 mm.

54. The silicon carbide crystals of Claim 46, wherein the first regions and the second regions form a non-random predefined pattern.